CHAPTER 1

OVERVIEW OF THE EISENHOWER PROFESSIONAL DEVELOPMENT PROGRAM AND THE DESIGN OF THE NATIONAL EVALUATION

The professional development of teachers is a crucial element of the nation's efforts to improve education. In recent years, these efforts have sought to foster high standards for teaching and learning for all of the nation's children, and almost all states have met federal requirements for developing challenging statewide content standards.[1] Such standards seek a fundamental shift in what students learn. However, children's learning will be transformed only if high standards are reflected in teachers' classroom practice. Education reforms will not succeed without teachers who are immersed in the subjects that they teach and who know how to foster both basic knowledge and advanced thinking and problem solving among their students (Loucks-Horsley et al., 1998; National Commission on Teaching & America's Future, 1996).

The Eisenhower Professional Development Program, Title II of the Elementary and Secondary Education Act (ESEA), is the federal government's largest investment that is solely focused on developing the knowledge and skills of classroom teachers. The program is key to meeting the U.S. Department of Education's objective of ensuring that a "talented and dedicated teacher is in every classroom in America" (U.S. Department of Education, 1999c). Part B of the Eisenhower Professional Development Program, with a 1999 appropriation of about $335 million, provides funds through state education agencies (SEAs) to school districts, and through state agencies for higher education (SAHEs) to institutions of higher education and nonprofit organizations (SAHE grantees). These funds primarily support professional development in mathematics and science. Congress and the U.S. Department of Education (ED) currently are considering changes to the Eisenhower program as part of the reauthorization of the ESEA. This report, based on a national evaluation of the Eisenhower program, aims to provide information about how the program is operating and how it might be strengthened to inform policymakers as they consider changes to the program during its reauthorization.

In addition to informing policymakers about the Eisenhower program, a second objective of this report is to contribute more generally to knowledge about professional development. The Eisenhower program is a source of funding for professional development activities, not a specific approach to professional development. Allowable activities are wide-ranging and include workshops and conferences, study groups, professional networks and collaboratives, task force work, and peer coaching. Furthermore, Eisenhower funding does not exist in a vacuum. Eisenhower-assisted activities also may receive funding through states, school districts, and other federal programs. Therefore the information in this report about

[1] Title I of the Elementary and Secondary Education Act (ESEA) required that by the 1997-98 school year, each state was to have adopted challenging content standards in at least reading and mathematics, and challenging performance standards that describe students' mastery of the content standards (U.S. Department of Education, 1999b). Forty-eight states, plus Puerto Rico and the District of Columbia, have met federal requirements for developing challenging statewide content standards. Twenty-one states, plus Puerto Rico, have met the requirement for developing student performance standards. States are not required to submit content and performance standards to the U.S. Department of Education—only evidence of their quality and rigor.

the quality and effects of Eisenhower-assisted activities is also applicable to professional development funded through other sources.

Finally, by analyzing features of professional development activities and their effects on teachers, the third objective of this report is to gauge the extent to which federal support for professional development of teachers enhances the quality of teaching practice in the nation's schools. Ultimately, the success of the nation's efforts to improve student learning depends on efforts to improve the quality of teaching.

THE POLICY CONTEXT FOR THE REAUTHORIZED EISENHOWER PROGRAM

The Eisenhower legislation is part of the Elementary and Secondary Education Act (ESEA), and Congress in 1994 took a dramatically different direction for the ESEA's programs. In particular, the focus of Title I, the cornerstone of the ESEA, was to change from a program funding "remediation" activities to one that aims at achieving high standards for all students.[2] Furthermore, the "new" Title I was intended to encourage systemic educational reform through development of state standards and assessments, as well as by supporting school-based education reform through easing provisions for schoolwide projects. As part of ESEA, the Eisenhower program also was re-shaped in 1994 to help move the nation's children toward high standards by improving the quality of teaching.

These dramatic changes in federal education programs responded, in part, to public concerns about the poor performance of U.S. students compared to those in other industrialized countries. In mathematics and science, the Third International Mathematics and Science Study (TIMSS) suggests some explanations for the performance of U.S. students.[3] The TIMSS studies found that, while U.S. children generally have grasped "basics" like arithmetic, many are not learning advanced mathematics and science (Schmidt, McKnight, & Raizen, 1996; Schmidt & Valverde, 1997; U.S. Department of Education, 1998b). The studies also found that curricula in U.S. "schools lacks coherence, focus and rigor, compared to that of other countries" (U.S. Department of Education, 1998b, p.10). Because the curriculum frameworks of many states cover many topics—more than are taught in most other TIMSS countries—teachers often cover topics superficially, without spending enough time for students to master the topics. The curriculum within the U.S. also is less demanding than that of many other TIMSS countries. For example, middle school students in the U.S. are reviewing arithmetic and introductory science while their peers in other

[2] Title I of the Elementary and Secondary Education Act, as amended by the Improving America's Schools Act, is the federal government's largest investment in K-12 education. In FY 1997, Part A of the program, the local education agency grants program, was appropriated at $6.27 billion. Most of these funds are distributed by formula, based on the number of children who live in poverty, first to states and then to districts. Established in 1965 as one of the cornerstones of President Johnson's War on Poverty, Title I funds educational services for children attending high-poverty schools. With its 1994 reauthorization of the program, Congress made clear its intention that services provided under Title I be linked to high state and local standards.

[3] In mathematics and science, the subjects that are the primary focus of the Eisenhower program, students fall behind during the course of their school years. According to TIMSS, U.S. fourth-grade students are among the best in the world in science, and above the international average in mathematics. By high school, U.S. students score near the bottom of TIMSS nations in both subjects.

countries are studying algebra and geometry, physics, and chemistry.[4] While curricula that emphasize basic skills without also emphasizing more advanced skills may have been sufficient in a manufacturing economy, such curricula appear not to be sufficient in today's or tomorrow's work place.

Addressing deficiencies in student performance and in the curricula that students cover requires improvements at all levels of the U.S. education system (Fuhrman, 1993; Goertz, Floden, & O'Day, 1996; Kahle, 1997; Lee, 1997; Loucks-Horsley, 1997; Smith & O'Day, 1991; Webb, 1997a, 1997b). Such improvements are even more necessary because systemic reform efforts are attempting to raise standards of performance for *all* children, especially those from diverse backgrounds who have traditionally performed poorly in school. Preparation of all children for an increasingly knowledge-based economy requires a dramatic overhaul of all aspects of the education system, according to proponents of systemic reform.

In response to public concerns about education, state and local governments have taken steps to increase children's achievement in school. Many states and school districts have adopted rigorous content standards, as well as student performance standards, which describe the breadth and depth at which students should master content (American Federation of Teachers, n.d.; Blank & Pechman, 1995; National Education Goals Panel, 1995; Porter, Archbald, & Tyree, 1991; Porter, Smithson, & Osthoff, 1994). The federal government, too, has moved to support states in their development of content and student performance standards. In addition to the Improving America's Schools Act of 1994 which reauthorized the ESEA, the Goals 2000: Educate America Act, enacted in 1994, provides grants to states to support systemic reform initiatives. The National Science Foundation (NSF) also has invested heavily in supporting systemic education reform initiatives in mathematics and science in states, urban and rural areas, and school districts.[5]

National, state, and local efforts to improve education are intended to create a fundamental shift in what students learn and how they are taught. The success of such ambitious education reform initiatives hinges, in large part, on the qualifications and effectiveness of teachers. Thus, if children are to achieve at levels demanded by the high standards adopted by states and districts, teachers will have to help them do so. Teachers are necessarily at the center of reform, for they must carry out the demands of reform in the classroom (Cuban, 1990). As a result, teacher professional development is a major focus of systemic reform initiatives (Corcoran, 1995; Corcoran, Shields, & Zucker, 1998).

[4] TIMSS is the largest international comparison of education ever done. In 1995, TIMSS tested the mathematics and science knowledge of half a million students in three different grade levels in 41 countries.

[5] The National Science Foundation sponsors four systemic initiatives: Statewide Systemic Initiatives, concerned with state-level change; Urban Systemic Initiatives (replaced in 1999 by the Urban Systemic Program), for identified urban areas meeting minimum size requirements; Rural Systemic Initiatives, intended to ensure rural areas access to the technology and other educational reform efforts of more populous areas; and Local Systemic Change (formerly Local Systemic Initiatives), primarily concerned with teacher in-service training and development. NSF's systemic initiatives are generally funded in five-year increments; SSI awards can be up to $2 million per year and USI grants are between $400,000 and $3 million per year.

To carry out the demands of education reform, teachers must be immersed in the subjects they teach, and have the ability both to communicate basic knowledge and to develop advanced thinking and problem-solving skills among their students (Loucks-Horsley et al., 1998; National Commission on Teaching and America's Future, 1996). The central elements of systemic reform—high standards, curriculum frameworks, and new approaches to assessment aligned to those standards—generate new expectations for teachers' classroom behaviors, as well as for student performance (Bybee, 1993; National Council for Teachers of Mathematics, 1991; National Research Council, 1996; Webb & Romberg, 1994). To help students learn complex knowledge and skills, teachers must understand the disciplines that they teach, as well as how children learn these disciplines.

However, while teachers generally support high standards for teaching and learning, many teachers are not prepared to implement teaching practices based on high standards (Cohen, 1990; Elmore & Consortium for Policy Research in Education, 1996; Elmore, Peterson, & McCarthy, 1996; Grant, Peterson, & Shojgreen-Downer, 1996; Sizer, 1992; Muncey & McQuillan, 1996). Many teachers learned to teach using a model of teaching and learning that focuses heavily on memorizing facts, without also emphasizing deeper understanding of subject knowledge (Cohen, McLaughlin, & Talbert, 1993; Darling-Hammond & McLaughlin, 1995; Porter & Brophy, 1988). Even when they agree that new teaching approaches are needed, teachers often are unaware that their own knowledge and skills, or teaching practices, are inconsistent with high standards, or that they may not have received enough preparation to implement new approaches effectively.

The continual deepening of knowledge and skills is an integral part of any profession. Teaching is no exception (Shulman & Sparks, 1992; National Board for Professional Teaching Standards, 1989). In the context of the ambitious education reforms being undertaken across the nation, the quality of teachers' professional development has come under increased scrutiny. A large body of literature has emerged focusing on what effective professional development for teachers "looks" like. The literature suggests that traditional approaches to professional development, such as short workshops or attendance at conferences, may foster teachers' awareness or interest in deepening their knowledge and skills. However, such approaches to professional development appear insufficient to foster learning that would fundamentally alter what teachers teach or how they teach it. Yet, for many of the nation's teachers, professional development continues to be characterized by fragmented, "one-shot" workshops at which teachers listen passively to "experts" and learn about topics that are not essential to teaching (National Foundation for the Improvement of Education, 1996). A national survey conducted in 1998 reports that, depending on the subject of the professional development activity, between 44 and 81 percent of teachers reported that professional development activities lasted a total of one to eight hours during the previous 12 months (U.S. Department of Education, 1999a). Even when the professional development focused on "in-depth study in the subject area" of teachers' main teaching assignment, only 56 percent of teachers reported more than eight hours of professional development. Further, a study of professional development in NSF's statewide systemic initiatives found that activities were often of insufficient duration (Corcoran, Shields, & Zucker, 1998).

Professional development that has a substantial number of contact hours and is sustained over a long period of time is thought to have a stronger impact on teaching practice and to be more consistent with systemic reform efforts than professional development of limited duration (Corcoran, 1995; Darling-Hammond, 1995; Hargreaves & Fullan, 1992; Hiebert, 1999; Lieberman, 1996; Little, 1993; Richardson, 1994; Sparks & Loucks-Horsley 1989; Stiles, Loucks-Horsley, & Hewson, 1996). Conventional wisdom suggests that certain types of professional development activities are more likely than others to offer such sustained learning opportunities. These approaches include: study groups, in which teachers are engaged

in regular, structured, and collaborative interactions around topics identified by the group; coaching or mentoring arrangements, where teachers work one-on-one with an equally or more experienced teacher; networks, which link teachers or groups, either in person or electronically, to explore and discuss topics of intent, pursue common goals, share information, and address common concerns; and immersion in inquiry, where teachers engage in the kinds of learning that they are expected to practice with their students (Loucks-Horsley et al., 1998). Compared to workshops, these types of activities are typically thought to be longer, to allow teachers the opportunity to practice and reflect upon their teaching, and to be more embedded in ongoing teaching practices. A 1998 national survey found that many teachers believe that job-embedded, collaborative professional development activities, such as common planning time, being formally mentored by another teacher, or networking with other teachers outside the school, are more helpful than traditional forms of professional development (U.S. Department of Education, 1999a).

Although there is a large literature on professional development, little high-quality research has been conducted on the relationship between characteristics of professional development and change in teachers' classroom teaching practice, and still less has been conducted on the relationship between characteristics of professional development and gains in student achievement. The limited evidence available suggests that the most important aspect of high-quality professional development activities is the degree to which they focus on the content that teachers must teach. Two recent studies of professional development—a research synthesis of professional development in mathematics and science commissioned for this evaluation, as well as a study of professional development and student mathematics achievement in California—came to the same conclusion. These reviews found that professional development focusing on subject matter content and how children learn that content is effective in boosting student achievement. Kennedy (1998) found that professional development for teachers that focuses on how their students learn a particular mathematical or scientific idea was more effective in boosting these students' achievement than professional development that focused on general principles that apply to teaching all mathematics or science. Cohen and Hill (1998) found that mathematics teachers who participated in ongoing curriculum-centered professional development were more likely to report reform-oriented teaching practices in mathematics than teachers who did not participate in such professional development, and that such practices were associated with larger schoolwide gains in students' mathematics performance.

The need for high-quality professional development that focuses on content and how students learn content is all the more pressing in light of the large number of teachers who teach outside of their areas of specialization (National Commission on Teaching and America's Future, 1996). In 1998, 12 percent of science teachers of students in grades 7-12, and 18 percent of mathematics teachers in these grades, had neither a major nor a minor in their main teaching assignment (U.S. Department of Education, 1999a). The severity of this problem varies by state, with some states having very high percentages of teachers teaching outside their areas of specialization (Ingersoll, 1996; U.S. Department of Education, 1999a).[6] This situation is especially true of teachers who teach at-risk students and those who teach in high-poverty schools. In 1998, teachers lacking a major in their primary assignment taught almost a third of the mathematics classes in high-poverty schools, compared to 14 percent of classes in low-poverty schools (U.S. Department of Education, 1999a). Teachers who have not specialized in the subjects that they teach must often teach unfamiliar content. Common sense and research make clear that this is a recipe for disaster.

[6] While teaching out-of-field is clearly an important issue, most statistics on out-of-field teaching do not consider the *proportion of time* spent teaching out-of-field, and thus may overstate the problem.

The Eisenhower Professional Development Program was designed to help address all of these issues. The program's emphasis is to support professional development designed to help teachers meet the new demands of teaching to high standards. Yet, prior to the 1994 reauthorization, program-funded activities were not generally designed to provide the types of ongoing, in-depth learning opportunities likely to deepen teachers' knowledge and skills, or change classroom practice. The last evaluation of the Eisenhower program, conducted in 1988-89, described it as a "modest investment" that maximizes breadth of coverage across a large number of teachers rather than depth of professional development (Knapp, Zucker, Adelman, & St. John, 1991). That evaluation indicated that district-supported activities, which account for the vast majority of program funds, tended to be one-time in-service training events, averaging six hours in length. In fact, in one quarter of the nation's districts, typical activities lasted less than four hours. Not surprisingly, therefore, the evaluation found few instances of professional development that focused on teachers' content knowledge during nearly 40 site visits to school districts in 1988-89. The pattern of using district Eisenhower funds for short-term professional development activities was recently confirmed by an analysis of program performance reports; in 1994-95, 54 percent of Eisenhower-assisted district activities provided six hours or less of professional development per participant (Donly & Gutmann, 1997). By contrast, Eisenhower activities sponsored by SAHE grantees in 1988-89 typically were more intensive, averaging about 60 hours per participating teacher. These SAHE-sponsored activities also were more likely to focus on mathematics and science content (Knapp et al., 1991). The 1994 reauthorization of the Eisenhower Professional Development Program represents a strong effort to move all program-funded activities toward sustained, intensive, high-quality professional development that supports high academic standards, with a special emphasis on teachers of students in high-poverty schools.

THE EISENHOWER PROGRAM AND THE GOALS OF THE 1994 REAUTHORIZATION

The Eisenhower Professional Development Program was established in 1984, and was reauthorized in 1988 and again in 1994 as Title II of the Elementary and Secondary Education Act, as amended by the Improving America's Schools Act (IASA) of 1994. The Eisenhower Professional Development Program allocates funds through states to school districts and to institutions of higher education and nonprofit organizations. In fiscal year 1999, $335 million was appropriated for Part B of the Eisenhower Professional Development Program, State and Local Activities. Eisenhower funds are distributed to states according to a formula that weights equally the number of children in the state between the ages of 5 and 17 and the state's allocation under Title I, Part A of the Elementary and Secondary Education Act.[7] Eighty-four percent of allocated Title II, Part B funds are distributed to SEAs, with the remaining 16 percent allocated to SAHEs. At least 90 percent of SEA allocations then flow through to local education agencies (LEAs), based on the same formula (equal weights to the school-aged population and the LEA's Title I, Part A allocation).[8] LEAs that receive Eisenhower grants under $10,000 are required to form consortia with other such LEAs, unless the SEA waives the requirement (Section 2204(b)). SAHEs distribute at least 95 percent of their Eisenhower allocations by competitive grants or contracts to institutions of higher education (IHEs) or nonprofit organizations (NPOs) that provide

[7] Part B allocates funds to the 50 states, the District of Columbia, Puerto Rico, the Bureau of Indian Affairs (BIA), and the outlying areas.

[8] Up to 5 percent of the SEA's Title II grant may be used for program administration, and another 5 percent may be used to support professional development activities provided at the state level.

professional development to teachers or prospective teachers. Each SAHE develops priorities and guidelines for the awards based on the state plan for improvement in teaching and learning, which it develops collaboratively with the SEA (Section 2205(a)(2)(A)).

Like its predecessor, the Eisenhower Mathematics and Science Education Program, the reauthorized Eisenhower Professional Development Program focuses on the professional development of mathematics and science teachers. The reauthorized legislation, however, expands the program by allowing states and districts to use funds in excess of $250 million to provide professional development to teachers in other core academic subject areas (Section 2206).[9]

In its 1994 reauthorization of the program, Congress made it explicit that Eisenhower-assisted activities should be designed to improve teacher practice and, ultimately, student performance. The law also places particular emphasis on serving teachers in schools with high poverty rates. Furthermore, the reauthorized Eisenhower program embodies policymakers' intention that the program support systemic education reform and deeper learning among teachers. The law incorporates a number of strategies to achieve these goals.

First, and most important, the Eisenhower program is intended to support *high-quality professional development activities*. Before the 1994 reauthorization, Congress provided limited direction about what characterized high-quality professional development; currently, both the Eisenhower Professional Development Program legislation and the program guidance published by the U.S. Department of Education (ED) emphasize that the Eisenhower program should fund professional development that is sustained, intensive, ongoing, and of high quality. Such professional development should reflect recent research on teaching and learning and should provide teachers and other school staff with the knowledge and skills necessary to provide all students with the opportunity to meet challenging standards (Section 2002(2)). Further, these provisions are reflected in ED's performance indicators for the Eisenhower program, which fulfill one of ED's responsibilities under the Government Performance and Results Act (GPRA).[10]

Second, the Eisenhower program is intended to ensure that professional development activities supported with Eisenhower funds include and *target teachers of at-risk students*. Reflecting the strong emphasis on education reform efforts and on federal programs to increase access to a high-quality education for all students, the 1994 legislation requires that state applications and local plans must take into account the educational needs of students from historically underrepresented populations.[11] The Eisenhower legislation also places special emphasis on addressing the needs of teachers in schools

[9] There are two ways that Eisenhower funds can be used to support professional development in other subject areas. First, when the appropriation for the program exceeds $250 million, the additional funds can be used to provide professional development in core subject areas other than mathematics and science. Second, the ESEA legislation allows states and districts to apply to the federal government for waivers that allow them to devote larger percentages of their Eisenhower Professional Development Program grants to other core subject areas.

[10] GPRA requires ED to establish annual, quantifiable performance goals and indicators for ED programs as part of a strategic planning process.

[11] The legislation requires state applications and local plans to take into account the need for greater access to education in core academic subjects, especially mathematics and science, "by students from historically underrepresented groups, including females, minorities, individuals with limited English proficiency, the economically disadvantaged, and individuals with disabilities, by incorporating pedagogical strategies and techniques which meet such individuals' educational needs" (Section 2205(b)(2)(F)). Similar language is also used to describe how the LEA will use needs assessment to plan professional development activities that address the needs of diverse student populations (Section 2208 (d)(1)(F)).

receiving Title I, Part A funds; generally these are schools that have higher rates of poverty than other schools in their districts. Teachers in schools that receive Title I support must be involved in the assessment of local needs for professional development, which is required under Title II (Section 2208(b)(2)). Furthermore, in planning for professional development, SEAs and LEAs must take into account how Title II-funded activities address the needs of teachers in schools that receive Title I support (Section 2205(b)(2)(E) and Section 2208(d)(1)(B)). The Title I statute requires similar coordination with the Eisenhower Professional Development Program. See Section 1119(b)(11)(C).

Third, the Eisenhower program is intended to integrate Eisenhower-assisted activities with other reform efforts. Recent efforts to improve education have focused on ensuring that all aspects of the education system—including curricula, assessments, teacher education—be consistent with one another and be geared toward the same goals. Reflecting this focus, the law requires the *alignment* of Eisenhower-assisted professional development activities with challenging state and local standards and *coordination* of supported activities with education reform and professional development efforts funded by federal, state, and local governments and other public, private, and nonprofit organizations and associations. Such integration of Eisenhower-assisted activities with other reform efforts would presumably strengthen the quality of those activities by gearing them to challenging standards and by allowing several funding sources to be combined to design higher quality activities. The law's requirements for district planning of professional development activities, for co-funding those activities with funds from other programs, and for IHE/NPOs working with schools, school districts, or consortia of districts, all promote linkages between Eisenhower-assisted activities and those funded from other sources. (See Sections 2205(c), 2208(d)(1)(H), 2209 (a), and 2211(a).)

Finally, the reauthorized Eisenhower program contains provisions intended to foster purposeful planning and ongoing tracking of progress by states and localities, supported by state and district performance indicators. A number of the law's requirements encourage SEAs and LEAs to engage in a *continuous improvement* process, grounded in careful goal-setting and in monitoring progress. The 1994 law establishes detailed requirements for state and local planning under the Title II program. States and localities receiving Title II funds must develop plans to improve teaching and learning. These plans must be based on needs assessments, must be developed through a

participatory process, and must describe how the strategy for professional development will meet identified needs (Sections 2205(b)(2), 2208(c)(2), and 2208(d)(1)).[12]

An important aspect of local planning is the *participation of teachers* in decisions about the use of Eisenhower Professional Development Program funds. The reauthorization legislation specifically states that LEAs

> shall use not less than 80 percent of such [Eisenhower Professional Development Program] funds for professional development of teachers, and, where appropriate, administrators, and, where appropriate, pupil services personnel, parents, and other staff of individual schools in a manner that (A) is determined by such teachers and staff; [and] (B) to the extent practicable, takes place at the individual school site (Section 2210(a)(1)).

This provision reflects the Congress' conclusion that decisions about professional development are best made by its participants. At the same time, the law also states that this professional development should be consistent with the LEA's overall plan for professional development (Section 2210(a)(1)(C)).

Some of the key goals of the Eisenhower program are summarized in a set of performance indicators prepared by ED, as required by the Government Performance and Results Act (GPRA). GPRA requires ED to establish annual, quantifiable performance goals and indicators for ED programs as part of a strategic planning process. The current indicators for Part B of the Eisenhower program reflect the intent of the 1994 legislation (U.S. Department of Education, 1999c):

Objective 1 **Classroom instruction is improved through effective professional development.**

> ***Indicator 1.1*** **Teachers' skills and classroom instruction**. By 1998, over 50 percent of a sample of teachers will show evidence that participation in Eisenhower-assisted professional development has resulted in an improvement in their knowledge and skills, and by 2000, over 60 percent will show such evidence. By 1999, over 50 percent of a sample of teachers in selected sites will show evidence that participation in Eisenhower-assisted professional development has resulted in an improvement in classroom instruction.

[12] When applying for Title II funds, states may elect either to submit a program-specific application to ED or to include Title II in an ESEA "consolidated application." If the state submits a Title II-specific application, it must include statutorily required information about the needs assessment it has conducted and its plan to improve teaching and learning. (See, generally, section 14302.) If the state submits a consolidated application, it need not include this information in its application. Similarly, states can require LEAs to submit either a Title II specific or consolidated application. If the state requires a Title II-specific application, it must include statutorily required information about its plan for professional development and its needs assessment. If the state requires a consolidated application, it need not include this information in that application unless the state requires it to do so. Regardless of the content of state- or LEA-consolidated applications, ED has made it clear to states and districts that, if they include the Eisenhower Professional Development Program in consolidated applications, they still must implement all planning requirements that apply to the program. However, information about planning and needs assessments need not be included in the consolidated application itself or otherwise prepared in the formal planning document.

Objective 2 **High-quality professional development and state policy are aligned with high state content and student performance standards.**

Indicator 2.1 **District-level professional development**. By 1998, over 50 percent of teachers participating in district-level or higher education Eisenhower-assisted professional development will participate in activities that are aligned with high standards. By 2000, over 75 percent will.

Objective 3 **Professional development is sustained, intensive, and high quality and has a lasting impact on classroom instruction.**

Indicator 3.1 **High quality.** By 1998, over 50 percent of teachers participating in district-level, Eisenhower-assisted professional development activities will participate in activities reflecting best practices, including a focus on continuous improvement. By 2000, over 75 percent will.

Indicator 3.2 **Sustained professional development.** By 1998, 35 percent of teachers participating in district-level, Eisenhower-assisted activities will participate in activities that are a component of professional development that extends over the school year. By 2000, over 50 percent will.

Objective 4 **High-quality professional development is provided to teachers who work with disadvantaged populations.**

Indicator 4.1 **High-poverty schools.** The proportion of teachers participating in Eisenhower-assisted activities who teach in high-poverty schools will exceed the proportion of the national teacher pool who teach in high-poverty schools.

Indicator 4.2 **Context (not limited to any single program): Teachers.** Teachers in high-poverty schools will participate in intensive, sustained, high-quality professional development at rates comparable to or higher than the rates for teachers in other schools.

Objective 5 **Effective management of the Eisenhower Program at the federal, state, and local levels supports systemic reform.**

Indicator 5.1 **Federal guidance and assistance.** The number of Eisenhower state coordinators who report that ED guidance and assistance are timely and helpful will increase.

Objective 6 **Measurement of integrated planning and collaboration.**

Indicator 6.1 By 1998, 50 percent of all states will have developed performance indicators for integrated professional development across programs (including Eisenhower) in order to support systemic reform and will have data-collection systems in place. By 2000, 75 percent will have these indicators.

Indicator 6.2 By 2000, over 80 percent of states will report that they coordinate and collaborate with Title I State coordinators when they develop their plans for professional development.

This evaluation of the Eisenhower program addresses Objectives 1 through 4. This report is designed to assist policymakers in determining whether and how program-funded activities contribute to the nation's efforts to improve schools, and to lay the foundation for deliberations about the Eisenhower program during the current reauthorization of ESEA. The next section describes the types of information collected in the evaluation in order to provide a comprehensive and accurate picture of the Eisenhower program.

APPROACH TO EVALUATION OF THE EISENHOWER PROGRAM

In February 1997, the U.S. Department of Education's Planning and Evaluation Service commissioned the American Institutes for Research (AIR) to conduct a three-year evaluation of Part B of the Eisenhower Professional Development Program, Title II of the Elementary and Secondary Education Act, as amended by the Improving America's Schools Act (IASA). The evaluation had two purposes:

1. *To describe Eisenhower-assisted activities and evaluate their effects*. The 1994 reauthorization of the program instituted a number of far-reaching changes described above. ED wanted AIR to describe program-funded activities and to obtain an understanding of whether the changes were occurring.

2. *To provide information related to performance indicators that ED developed for the program in response to requirements of the Government Performance and Results Act (GPRA)*. GPRA requires ED to determine the program's performance in relation to its goals and objectives.

To meet ED's information needs, the evaluation team designed an integrated set of data collection activities. The evaluation used a multi-method strategy to collect quantitative and qualitative data about Eisenhower-assisted activities. These data come from a variety of sources—state and district officials, directors of grants awarded to institutions of higher education and nonprofit organizations, and teachers. The evaluation was designed to obtain national data about program-funded activities, to obtain a deeper understanding of how the program works in selected

locations, and to collect information about how professional development activities affect teacher practice.[13] Exhibit 1.0 displays a timeline of the evaluation's major activities.

As Exhibit 1.0 shows, the evaluation is based on three strands of data collection. The first strand, a *National Profile*, provides information about program goals, strategies, operations, and activities nationwide. During the 1997-98 school year, we conducted telephone interviews with a national probability sample of Eisenhower coordinators in 363 school districts and SAHE-grantee project directors in 92 institutions of higher education or nonprofit organizations (IHE/NPOs).[14] We also collected data from a mail survey of a national probability sample of 1,027 teachers who participated in 657 Eisenhower-assisted activities.[15] These Teacher Activity Survey data describe the types of professional development supported with Eisenhower funds, and compare activities sponsored by school districts to those sponsored by higher education institutions and nonprofits. Appendix A provides additional detail about the sampling design and methodology of the three components of the National Profile

A second strand of data, a set of *Case Studies*, provides detailed information about how the Eisenhower Professional Development Program operates in selected states, school districts, and schools. During the 1997-98 school year, AIR conducted *In-Depth Case Studies* in 10 school districts—two school districts in each of five states: Kentucky, New York, Ohio, Texas, and Washington. The districts were selected to represent a diversity of region, urbanicity, poverty level, and ethnic composition. The sites also were selected because they supported diverse approaches to professional development, instead of, or in addition to, traditional workshops or conference attendance. For example, a number of the in-depth case districts used their Eisenhower funds to provide professional development to "lead" or "resource" teachers who became mentors to other teachers in their schools or districts. Other in-depth case study districts used Eisenhower funds to support workshops or institutes that were unusual because they extended over many days or weeks. Still other districts were selected because they supported school-based professional development activities with Eisenhower funds. Through site visits to the in-depth case study districts, we explored how decisions are made about the use of program funds, and the reasons that the goals, operations, and activities vary across states and districts. The case studies have been a critical source of information about how Eisenhower-assisted activities relate to other professional development and education reform efforts, and about the degree of coherence and consistency among these efforts.

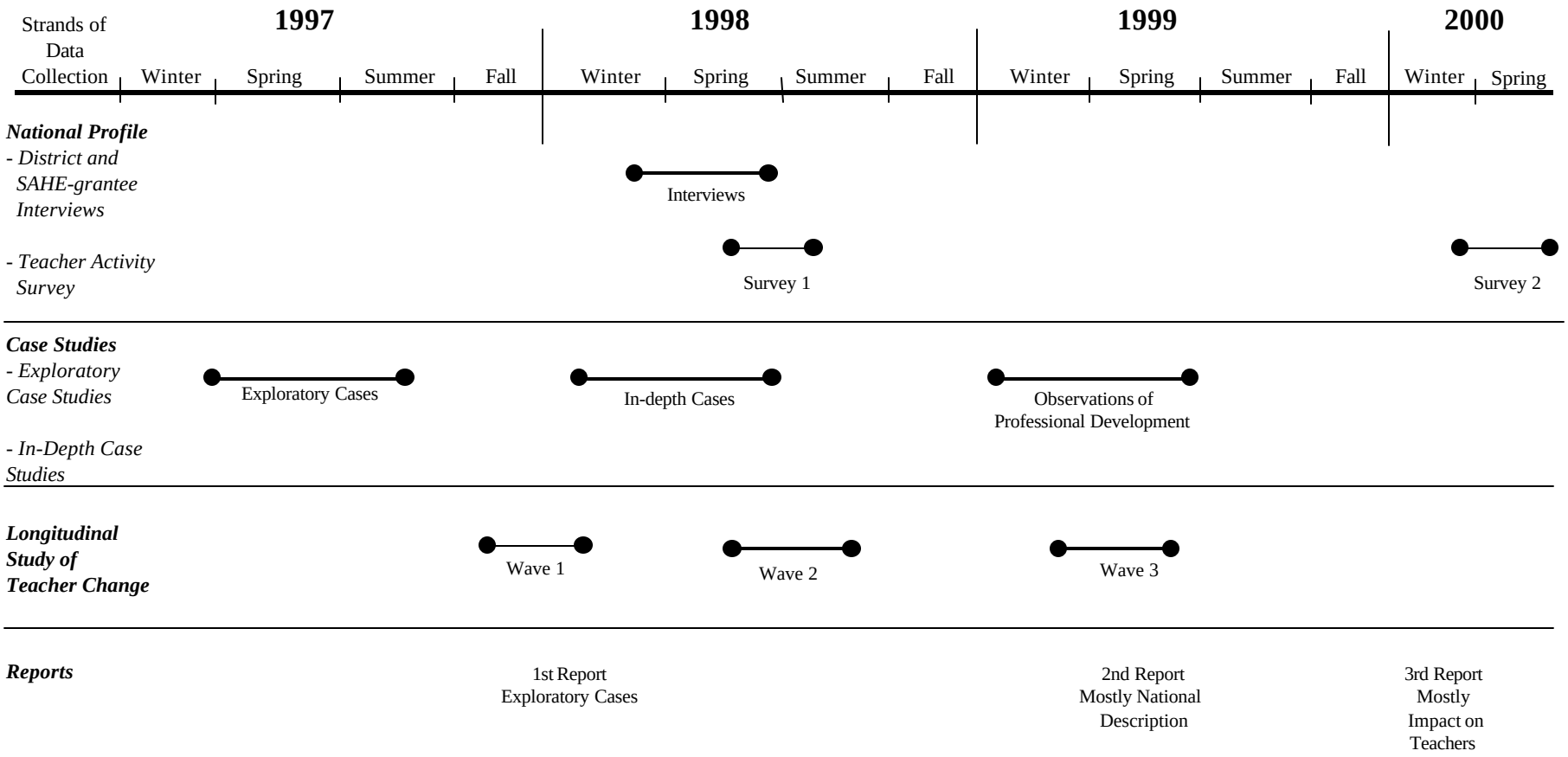
[13] The evaluation was designed to collect data about six research questions: 1) What types of professional development activities does the Eisenhower program make available to teachers, and to what extent do these activities represent best practices? 2) Who participates in Eisenhower-assisted professional development activities? 3) As designed, planned, and implemented at the state, district, and school levels, how does the Eisenhower program fit into the mosaic of professional development and other systemic reform activities? 4) From the teacher's perspective, how do Eisenhower-assisted and other professional development activities combine to provide a coherent, integrated set of learning opportunities? 5) Do teachers' experiences in Eisenhower-assisted professional development activities, in the context of other professional development activities, contribute to teaching practice? and 6) How is the Eisenhower program planned, coordinated, and evaluated at the state, district, and IHE levels? While these research questions guided the evaluation, they do not serve as the framework for reporting findings in this report. Rather, we report analyses from each of our data sets in turn, as depicted in Exhibit 1.3.

[14] The telephone interviews of 363 district coordinators represent a response rate of 88 percent of sampled coordinators; the telephone interviews with IHE/NPO project directors represent a response rate of 87 percent of sampled project directors. Details regarding sampling are described in Appendix A.

[15] The mail survey of teachers represents a response rate of 72 percent of sampled teachers. Details regarding sampling are provided in Appendix A.

EXHIBIT 1.0

Timeline for the Evaluation



The information from the in-depth case studies expands upon information we obtained from *Exploratory Case Studies* during the 1996-97 school year. Like the in-depth cases, the exploratory case studies, conducted in six school districts, were selected to vary by region, urbanicity, poverty level, and ethnic composition.[16] The first report from this evaluation, the *Eisenhower Professional Development Program: Emerging Themes from Six Districts* (Birman, Reeve, & Sattler, 1998), was based on these exploratory case studies, and we also use information from the exploratory cases in this report. Exhibits 1.1 and 1.2 provide pseudonyms and demographic information about the in-depth and exploratory case studies. More detail about site selection, design, and methodology of the case studies, including their approaches to professional development, is contained in Appendix B.

The third strand of this evaluation, a *Longitudinal Study of Teacher Change*, examines the effects of Eisenhower-assisted and other professional development on teacher practice in mathematics and science. For the in-depth case studies, we interviewed and conducted classroom observations of teachers in three schools—an elementary, middle, and high school—in each of the 10 districts. We also surveyed all teachers who teach mathematics or science in those schools. We asked these teachers detailed questions about the topics they covered, their goals for student performance, and their participation in professional development activities at three points in time: the fall of 1997, the spring of 1998, and the spring of 1999. The three waves of the survey provide data pertaining to the 1996-97, 1997-98, and 1998-99 school years. The Longitudinal Study of Teacher Change will enable us to examine the extent to which teachers' participation in Eisenhower-assisted and other professional development activities improves instruction over time. Appendix C provides additional information about the sampling, design, and methodology of the Longitudinal Study of Teacher Change.

The three strands of the evaluation were designed to produce an integrated portrait of the Eisenhower program. The study does not describe the program simply from the perspective of its administrators, but also from the perspective of the teachers who participate in program-funded activities. The study supplements self-reported information from teachers and administrators with rich contextual information from case studies. Finally, the study does not rely only on teacher reports of changes in their classroom practice, but also is collecting data on teaching practice at three points in time. Thus, because the evaluation involves a variety of research methods and collects data from groups of individuals who view Eisenhower-assisted activities from different vantage points, it is able to provide an accurate description of program-funded activities and analyses of the features of these activities and their effects on teacher practice.

[16] In addition to being selected for their demographic features, the six exploratory sites also represented districts with features that we believed might influence the program's implementation. The six sites were selected to include: one district that participated in the Eisenhower program through a consortium; at least two districts that had IHE-supported projects working in schools in the district; and two districts located in states that received waivers from ED allowing greater proportions of Eisenhower funds to support professional development in areas outside mathematics and science.

EXHIBIT 1.1

In-Depth Case Studies

DISTRICT PSEUDONYM	CHARACTERISTICS
Richmond	An urban district in New York State, Richmond serves approximately 10,000 students from a predominantly minority population. Nearly 60 percent of the students are African American, and half of the students qualify for a free or reduced-price lunch.
East City	An urban district in New York City, East City serves a largely immigrant population. Between 25 and 30 percent of its children are taught in Spanish, while many of the other children speak Creole, African languages, or French. One hundred percent of the students qualify for a free or reduced-price lunch.
Maple City	A large metropolitan school district in Ohio, Maple City serves nearly 64,000 students. Nearly 55 percent of these students are African American, and 60 percent are eligible for a free or reduced-price lunch.
Buckeye	A suburban school district in Ohio, Buckeye serves approximately 11,000 children. About 90 percent of the students are white. A very small percentage of students qualifies for a free or reduced-price lunch.
Rhinestone	A metropolitan school district in Texas, Rhinestone serves approximately 13,000 students from a predominantly minority population: 43 percent of the students are Hispanic, 35 percent are African American, and 20 percent are white. Fifty-six percent of the students qualify for a free or reduced-price lunch.
Lone Star	In a large city in Texas, Lone Star serves approximately 65,000 students from a predominantly minority population. Seventy-seven percent of students are Hispanic, and 18 percent are non-Hispanic whites. Thirty-two percent of the students have limited English proficiency, and 67 percent of the students qualify for a free or reduced-price lunch.
Riverside	In an urban fringe of a large city in Washington, Riverside serves 20,000 students in a relatively affluent community. Eighty percent of the students are white, and 15 to 20 percent of the students qualify for a free or reduced-price lunch.
Rainforest	A small logging community in Washington, Rainforest serves 1,570 students, 85 percent of whom are white. Ten percent of the students are Native American, and nearly half of the students qualify for a free or reduced-price lunch.
Weller	A poor rural district in Kentucky's Appalachian Mountains, Weller serves 500 students. Ninety-nine percent of the students are white, and 60 percent qualify for a free lunch.
Boonetown	An urban fringe of a mid-sized city in Kentucky, Boonetown serves 8,000 students, 95 percent of whom are white. A very small percentage of students qualifies for a free or reduced-price lunch.

EXHIBIT 1.2

Exploratory Case Districts

DISTRICT PSEUDONYM	CHARACTERISTICS
West City	A large, urban district on the west coast, West City serves a predominantly minority population of 61,889 students; fewer than 15 percent of students are white, while nearly half are Asian, and another 20 percent are Hispanic. About half of the district's students qualify for a free or reduced-price lunch.
Middle City	An urban district in the midwest, Middle City serves nearly 100,000 students. Nearly 60 percent of these students are African American, and almost two thirds qualify for a free or reduced-price school lunch.
South City	A large, urban district in the southeast, South City serves predominantly minority students, many of whom are not native English speakers. Nearly half of the district's 333,817 students qualify for a free or reduced-price lunch.
Commuteville	A large, suburban county school district in the mid-Atlantic region, Commuteville serves an ethnically diverse population. Just over two thirds of students are white, with almost equal representation of African American, Hispanic, and Asian students. About 12 percent of the students qualify for a free or reduced-price lunch.
Northtown	Northtown is a small city in New England. Its population is predominantly white (about 80 percent of students), and over a third of students qualify for a free or reduced-price lunch.
Countryplace	Countryplace is a consortium of seven school districts in a rural part of the midwest. The population is fairly homogeneous; virtually all of the 6,000 students served in the consortium are white, and less than 20 percent qualify for a free or reduced-price lunch.

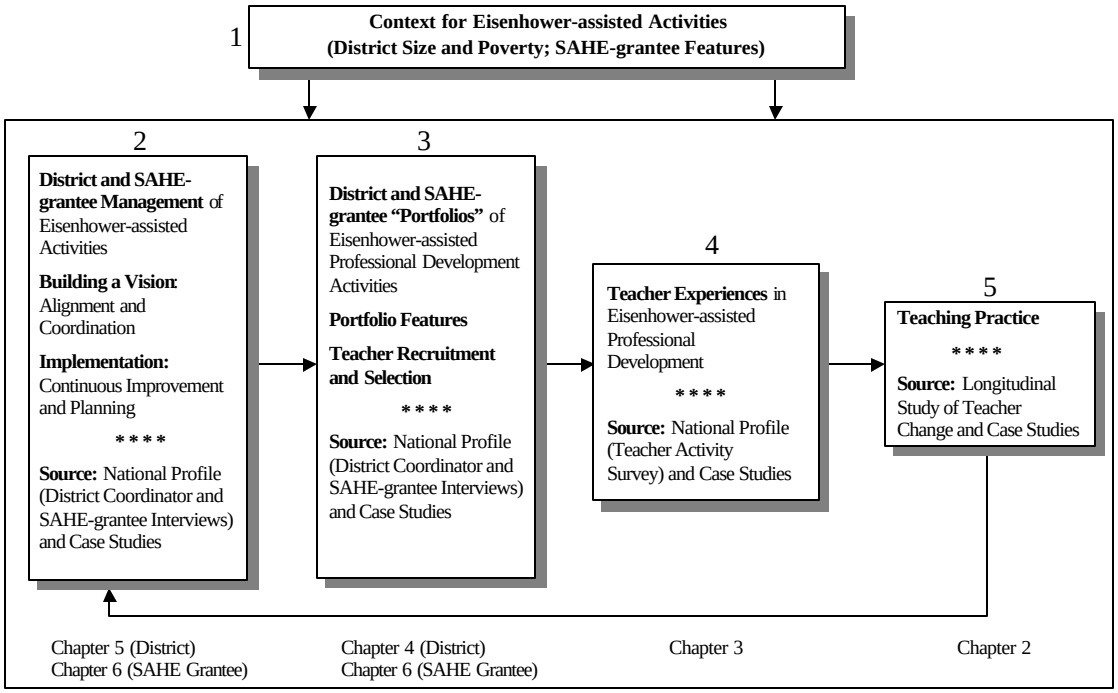
OVERVIEW OF THIS REPORT

This report presents information from all three strands of the evaluation. Exhibit 1.3 displays the logic of the Eisenhower program as it is laid out in the legislation. Improving teaching practice (Box 5) is the goal of the Eisenhower legislation. Teacher experiences in Eisenhower-assisted professional development activities (Box 4) are intended to improve teaching practice. The quality of the activities districts and SAHE grantees make available, and the ways districts and SAHE grantees select teachers to participate (Box 3), in turn influence teacher experiences in Eisenhower-assisted professional development. We hypothesize that the overall quality of Eisenhower-assisted activities is shaped by the degree of integration of the Eisenhower-assisted activities with other professional development and systemic reform efforts, as well as by how districts and SAHE grantees plan and evaluate Eisenhower funded activities (Box 2).

In addition to displaying the logic of the Eisenhower program, Exhibit 1.3 also describes the structure of this report. The report starts by focusing on classroom teaching practice (Box 5), then examines the professional development experiences of teachers, including their Eisenhower-assisted activities (Box 4). The report then describes how the program operates in school districts and in SAHE-supported projects in IHEs and nonprofits (Boxes 3 and 2). Throughout the report, we pay attention to contextual features that affect program-funded activities, such as district size, district poverty level, and the characteristics of SAHE-grantees (Box 1).

EXHIBIT 1.3

Program Logic Model for This Evaluation



We begin this report with a description of classroom practice, then describe the characteristics of the professional development activities that teachers participate in, and finally describe the characteristics of Eisenhower-assisted operations. In doing so, we have adopted an approach that is unusual for a federal program evaluation, which usually starts with a description of the "program" and its characteristics. We have chosen this alternative approach because it is important to understand what types of teacher practice the Eisenhower program is attempting to reinforce and to change, and because it allows us to avoid a "top-down" perspective on federal programs. This perspective, common among evaluations of federal programs, implies that federal provisions are at the center of change in teacher practice. Yet, the myriad evaluations of federal education programs over the years illustrate that federal education programs are only one aspect of the many influences upon practice.

Chapter 2 begins with an analysis of teaching practice because the Eisenhower program's goal is to improve instruction, and ultimately student performance. The chapter examines the practice of teachers in the 30 schools that comprise our Longitudinal Study of Teacher Change; the chapter also compares teachers' reports of their classroom teaching to the standards embodied in the National Assessment of Educational Progress (NAEP).

The model on which the Eisenhower program is based assumes that teachers' experiences in Eisenhower-assisted professional development activities will enhance their practice. Therefore, Chapter 3 analyzes the characteristics of Eisenhower-assisted professional development activities using data from the Teacher Activity Survey of our National Profile. In addition, the chapter describes the features of Eisenhower-assisted activities, the characteristics of teachers who participate in them, the coherence of professional

development from the teachers' perspectives, and teachers' reports of the impact of professional development on their knowledge and skills and classroom practice. The chapter also compares the characteristics of Eisenhower-assisted activities supported by school districts to those supported by SAHEs. Finally, the chapter identifies several features of effective professional development and explores how the features of professional development relate to one another and to teacher outcomes.

The Eisenhower legislation relies on school districts and SAHE grantees to design professional development activities and to recruit and select teachers for these activities. Because of the important role that school districts play in the Eisenhower legislation, Chapter 4 uses data from district Eisenhower coordinators and data from our in-depth and exploratory case studies to describe district "portfolios" of Eisenhower-assisted activities. A district's portfolio is the collection of Eisenhower-assisted activities offered in a district; the activities in a district's portfolio, taken together, represent the district's strategy for addressing the goals of the Eisenhower legislation. This chapter describes the characteristics of activities supported by Eisenhower funds, and the types of teachers participating in these activities.

The Eisenhower legislation also lays out a variety of procedural requirements that districts must use to administer the Eisenhower program. Chapter 5 examines the ways districts link Eisenhower-funded activities with those funded by other programs, as well as the ways they plan and evaluate supported activities. In particular, the chapter examines how districts build a vision for professional development by aligning Eisenhower-assisted activities with state and district standards and assessments, and by coordinating these activities with other school reform and professional development efforts. The chapter also examines how districts plan and evaluate Eisenhower-assisted activities, including their use of performance indicators.

SAHE grantees confront some issues that parallel those faced by the districts. Like districts, SAHE grantees design professional development activities and recruit teachers to participate in them. However, SAHE grantees in other ways operate quite differently from school districts. SAHE grantees have won competitions within their states to conduct particular activities rather than receiving Eisenhower funds by formula as districts do. In designing the grant and contract competitions, SAHEs develop priorities and guidelines for professional development based on state needs assessments; therefore grantees must design their activities to be responsive to the criteria outlined by the SAHE. Unlike districts, however, SAHE grantees do not have the responsibility to address the professional development needs of all teachers in their jurisdictions. Using data from the National Profile's telephone interviews with SAHE-grantee project directors, Chapter 6 focuses on how SAHE-grantees operate their Eisenhower-assisted projects.

Eisenhower-assisted activities, in both districts and SAHE grantees, do not occur in a vacuum. A district's characteristics, such as size and poverty rate, may affect its approach to professional development activities. For example, large districts have more access to other funding sources for professional development than smaller districts and, therefore, may be more likely to coordinate their Eisenhower-assisted activities with those of other programs. Districts with high rates of poverty might be more likely to target teachers of at-risk students. SAHE grantees also differ from one another in a number of ways that may affect the characteristics of the Eisenhower-assisted activities that they support. For example, SAHE-grantee project directors from university education departments are likely to have different areas of expertise from those in mathematics departments, and project directors in research universities might have access to different types of resources than those in other types of institutions. Box 1 of Exhibit 1.3 represents the contextual features of school districts and SAHE grantees that may affect how program-funded activities operate. Throughout this report, we examine these contextual features and their possible effects on districts, institutions of higher education, and nonprofits.

The organization of this report allows the reader first to learn about teachers' practices in the classroom,

then the Eisenhower-assisted professional development activities that are designed to affect their practices, and finally, district and SAHE-grantee management and operation of these activities. In this way, we hope that our analysis and discussion of Eisenhower-assisted activities and the operation of those activities will be grounded in a knowledge and understanding of the teacher classroom practices that the Eisenhower program is designed to improve.